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CACHET

Seminar

June 12th 2017

Technical University of Denmark DTU

REGION The Capital Region of Denmark

CITY OF COPENHAGEN

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STATUS '17

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OUR VISION

"... to promote and support **healthy living**, **active ageing**, and **chronic disease management** through **personalized** health technology."

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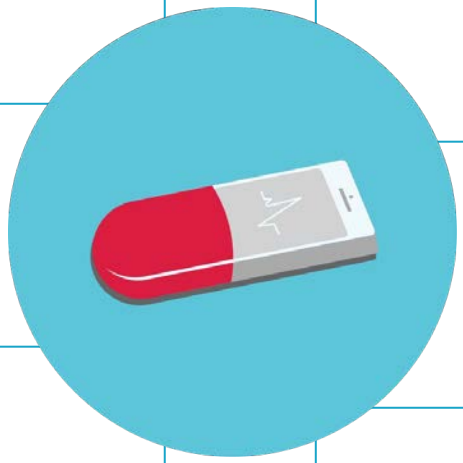
Healthcare Challenges

Chronic diseases management
Accounting for 2/3 of all healthcare spend worldwide – and increasing – chronic disease management is and will be the main focus of health.

Preventive and predictive health
Obesity, lack of physical activity and unhealthy lifestyle are the major factors for health problems and needs to be addressed early

Regulatory
Legal and regulatory demands for protecting patient privacy, data, and safety will be enforced heavily as digital and personalized health emerge

Evidence & outcome-based health
New business models both for suppliers and vendors will be tied to clinical evidence and real-world patient outcome (efficiency)



Technology Opportunities

Personalized technology
Engaging, patient-centric, and participatory technology can deliver interventions tailored to the individual and sustain engagement “beyond-the-pill” outside traditional care settings.

Digitalization
The ubiquity of digital health and communication technology drive new models for virtual and semi-automated doctor-patient contact.

Health IoT
Pervasive, mobile and wearable technology for sensing and engaging with patients create a unique platform for personalized health delivery

Big data analytics
Computing power and advanced analytics and learning algorithms drive insight and prediction of patient behavior, treatment, and care costs

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Strategic Goals

- #1 – VISIBILITY
  - increase visibility and impact of research in health technology in GCPH
- #2 – RESEARCH
  - initiate and host new research projects and initiatives across partners
- #3 – GROWTH & INNOVATION
  - fuel and support health innovation, entrepreneurship and commercial growth in GCPH

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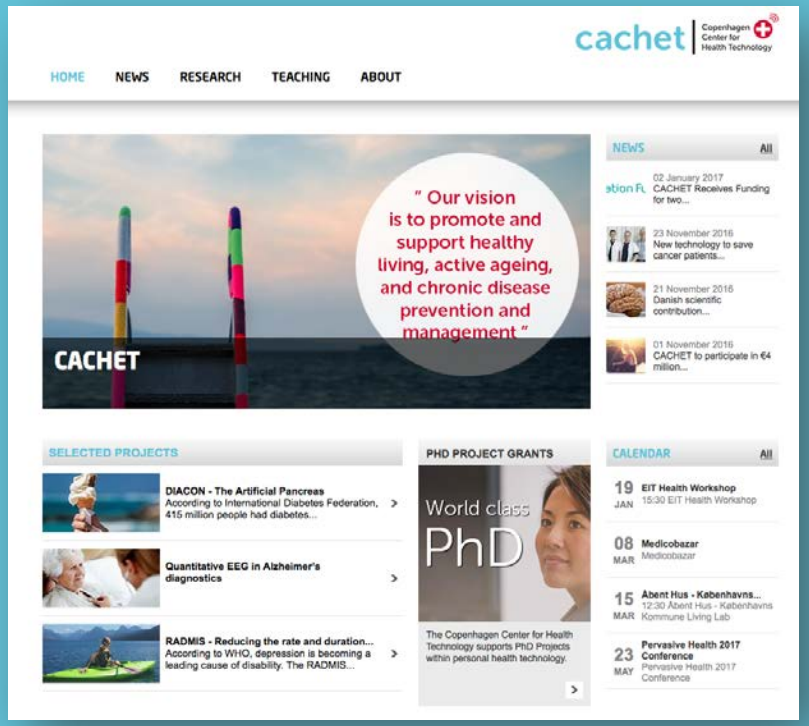
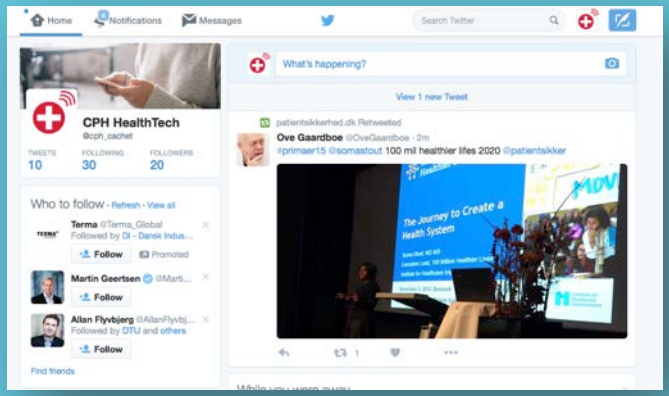
#1 – VISIBILITY

- Website
  - www.cachet.dk
  - www.ccht.dk
- Social Media
  - LinkedIn
  - Twitter [@cph_cachet]
- Graphical Look&Feel
  - logo
  - design guideline
  - colors
  - presentation templates
  - …





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30+ Conferences,
seminars, talks, exhibits, ...

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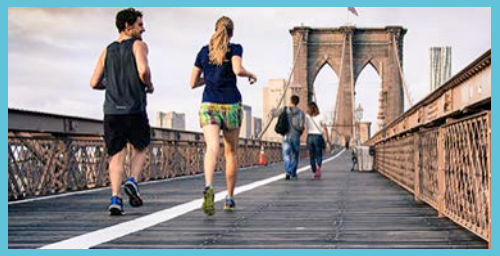
#2 – RESEARCH



Motivating Physical Activity

Mental Health

Managing Diabetes

Healthy Heart

Active Ageing

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HOME NEWS RESEARCH TEACHING ABOUT

CACHET › Research › Projects

SHARE

Themes

Projects

- The Artificial Pancreas
- EEG-based Alzheimer Diagnosis
- RADMIS
- GazeIT
- Personalizing Hearing Care
- Responsive Engagement of the Elderly
- Detection of mortality after cancer surgery
- MONARCA II
- Motivating Physical Activity
- Predicting Patient Outcomes
- SCAUT
- Sound & Health
- Smart Wearables for Dementia Monitoring

Publications

Research Projects

The Artificial Pancreas

EEG-based Alzheimer Diagnosis

RADMIS

Accessibility by Gaze Trackning

Detection of mortality after cancer surgery

Personalizing Hearing Care

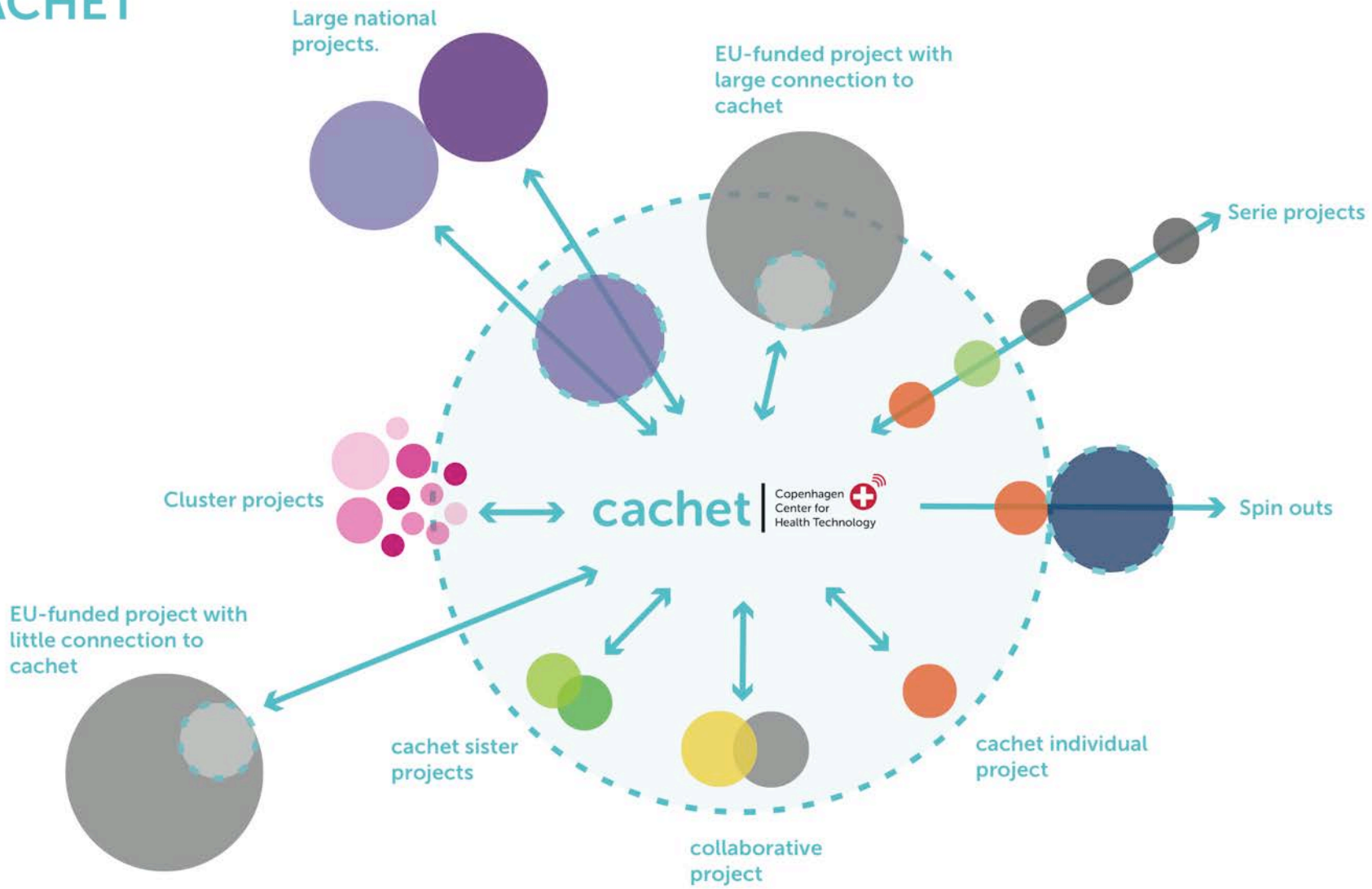
MONARCA II

Motivating Physical Activity

Predicting Patient Outcomes

http://www.cachet.dk/research/projects

THE FLEXIBLE RESEARCH MODEL OF CACHET



#3 – INNOVATION

The Economist | Topics | Print edition | More | Su

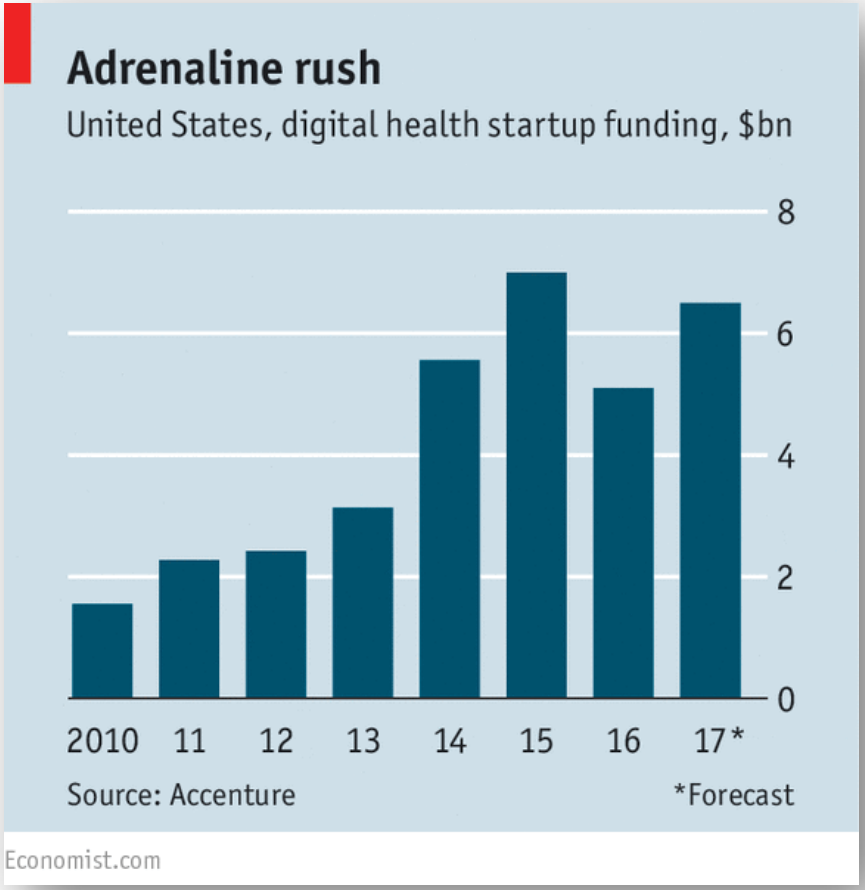
The wonder drug

A digital revolution in health care is speeding up

Telemedicine, predictive diagnostics, wearable sensors and a host of new apps will transform how people manage their health

Print edition | Business ›
Mar 2nd 2017

WHEN someone goes into cardiac arrest, survival depends on how quickly the heart can be restarted. Enter Amazon's Echo, a voice-driven computer that answers to the name of Alexa, which can recite life-saving instructions about



SUMMARY

Health check of Danish health technology

7

- 13 months
- 36 interviews
  - pharma | medtech | digital health | HMOs | VCs
- site visit to Boston & New York
- SWOT workshop
  - 1 day @ DTU

Interviewed companies/authorities/research institutions and workshop participants

Medtronic, Cure4you, Netplan, Coloplast, Novo Nordisk, Ambu, Rehfeld, BK Medical, KMD, CSC, BridgeIT, eglu, Cortrium, fbc device, Sekoia, Monsenso, NNIT, Acarix, Region Hovedstaden, Steno Diabetes Center, Region Sjælland, Københavns Kommune, Lyngby-Taarbæk Kommune, Horsens Kommune, Herlev og Gentofte Hospital, Bornholms Hospital, Slagelse Kommune, Area9, Prophet, Imotions, StartupHealth, MIT Deshpande Center, Northeastern University, Harvard Medical School, Brigham and Women's Hospital

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Copenhagen Healthtech Solutions [CHS]

Funding for researchers at KU SUND and DTU working with SME's towards health innovation

24 Collaborations 2017-19

22 healthcare innovations

COPENHAGEN HEALTHTECH CLUSTER CHC

THE EUROPEAN UNION
The European Regional Development Fund
Investing in your future

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WHO IS CACHET?

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Organization

- Steering Group
  - Ulla Wewer, KU-SUND (chair)
  - Rasmus Larsen, DTU
  - Katja Kayser, KK
  - Rosa Andersen, RH
- Management Group
  - Jakob E. Bardram
  - Helge Sørensen, DTU ELEKTRO
  - Jan Madsen, DTU COMPUTE
  - Steffen Loft, KU-SUND-PH
  - Bente Stallknecht, KU-SUND-BMI
  - Monica Andersen, KK
  - Anders Lundbergh, RH
  - Annemette Ljungdalh Nielsen, KK

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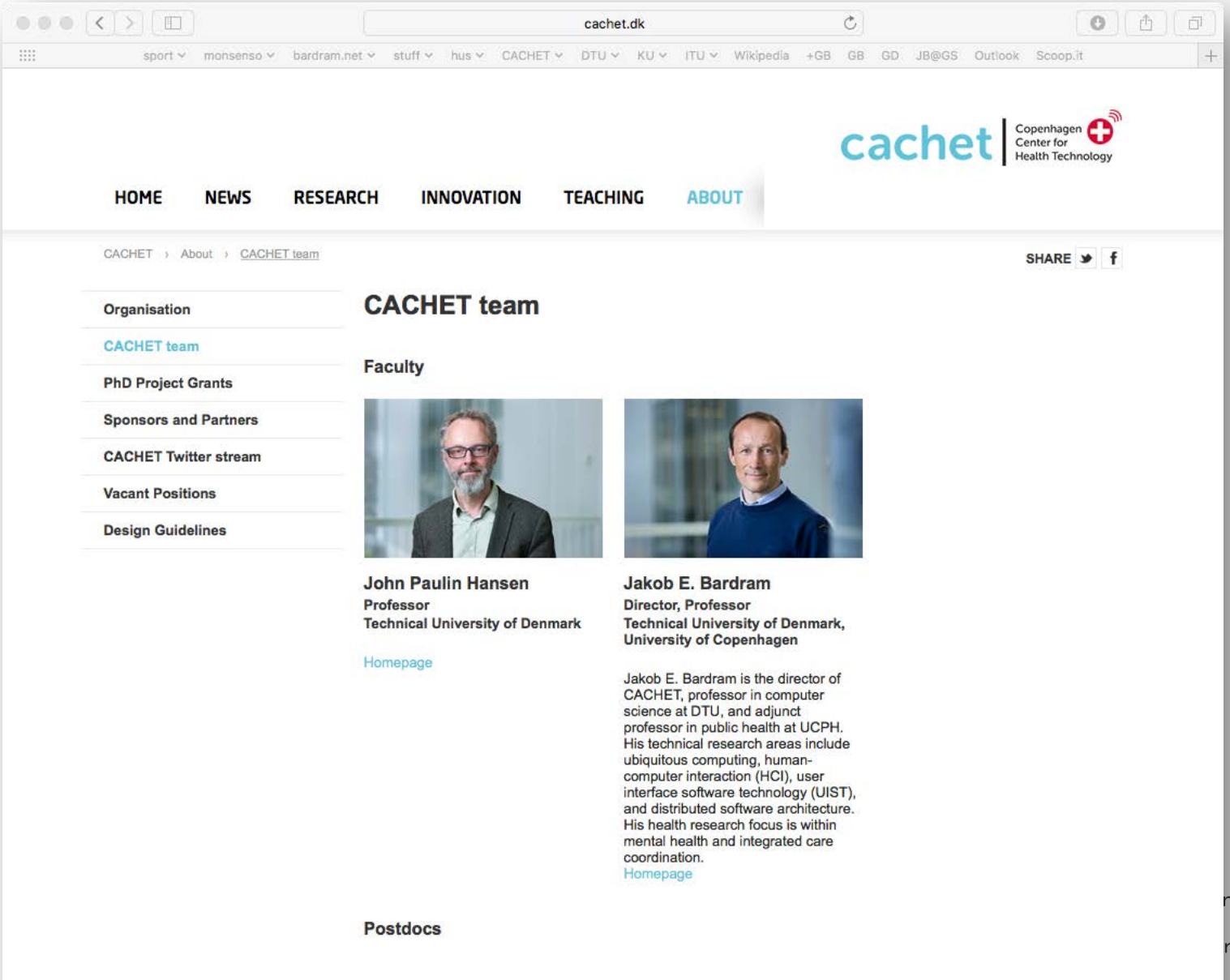
ALL OF US!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HOME NEWS RESEARCH INNOVATION TEACHING ABOUT
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PhD Project Grants
Sponsors and Partners
CACHET Twitter stream
Vacant Positions
Design Guidelines
CACHET team
Faculty
John Paulin Hansen
Professor
Technical University of Denmark
Homepage
Jakob E. Bardram
Director, Professor
Technical University of Denmark, University of Copenhagen
Jakob E. Bardram is the director of CACHET, professor in computer science at DTU, and adjunct professor in public health at UCPH. His technical research areas include ubiquitous computing, human-computer interaction (HCI), user interface software technology (UIST), and distributed software architecture. His health research focus is within mental health and integrated care coordination.
Homepage
Postdocs

… in summary …

- You should all help **disseminate** CACHET (goal #1)
  - … use the **logo** in presentations & posters
  - … **acknowledge** CACHET in publications
  - … mention **@cph_cachet** when (re-)tweeting
- We should help create **synergy** in research (goal #2)
  - … interdisciplinary
  - … application- and innovation-driven
- We should make an **impact** (goal #3)
  - … patents, products, spin-out companies, jobs
  - … innovative (distruptive?) health services

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#1 – **Personalized activity recommendation for people with depression. A machine learning case**
Darius Adam Rohani, DTU Compute

#2 – **Brain-Computer Interface Driven Neurorehabilitation Tool for Post-Stroke Patients**
Jakob Skadkær Møller, DTU Elektro

#3 – **Wireless Assessment of Respiratory and circulatory Distress**
Camilla Haahr-Raunkjær, Rigshospitalet, UCPH

#4 – **A physical intervention study from the wild side**
Simon Kamronn, DTU Compute

#5 – **Data driven UX for Personalized Hearing Care**
Benjamin Johansen, DTU Compute

#6 – **Smartphone-based electronic biomarkers in patients with bipolar disorder**
Sharleny Stanislaus, Rigshospitalet, UCPH

#7 – **Design of pervasive systems for chronic sleep/brain disorders**
Mads Olsen, DTU Elektro

#8 – **eMinor - how can we make eHealth support minors living with chronic diseases?**
Claudia Maria Bagge-Petersen, UCPH

#9 – **Machine Learning for Smartphone-based Monitoring & Treatment of Unipolar and Bipolar Disorders**
Jonas Busk, DTU Compute

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